

SALT LAKE COMMUNITY COLLEGE

STUDENT CENTER

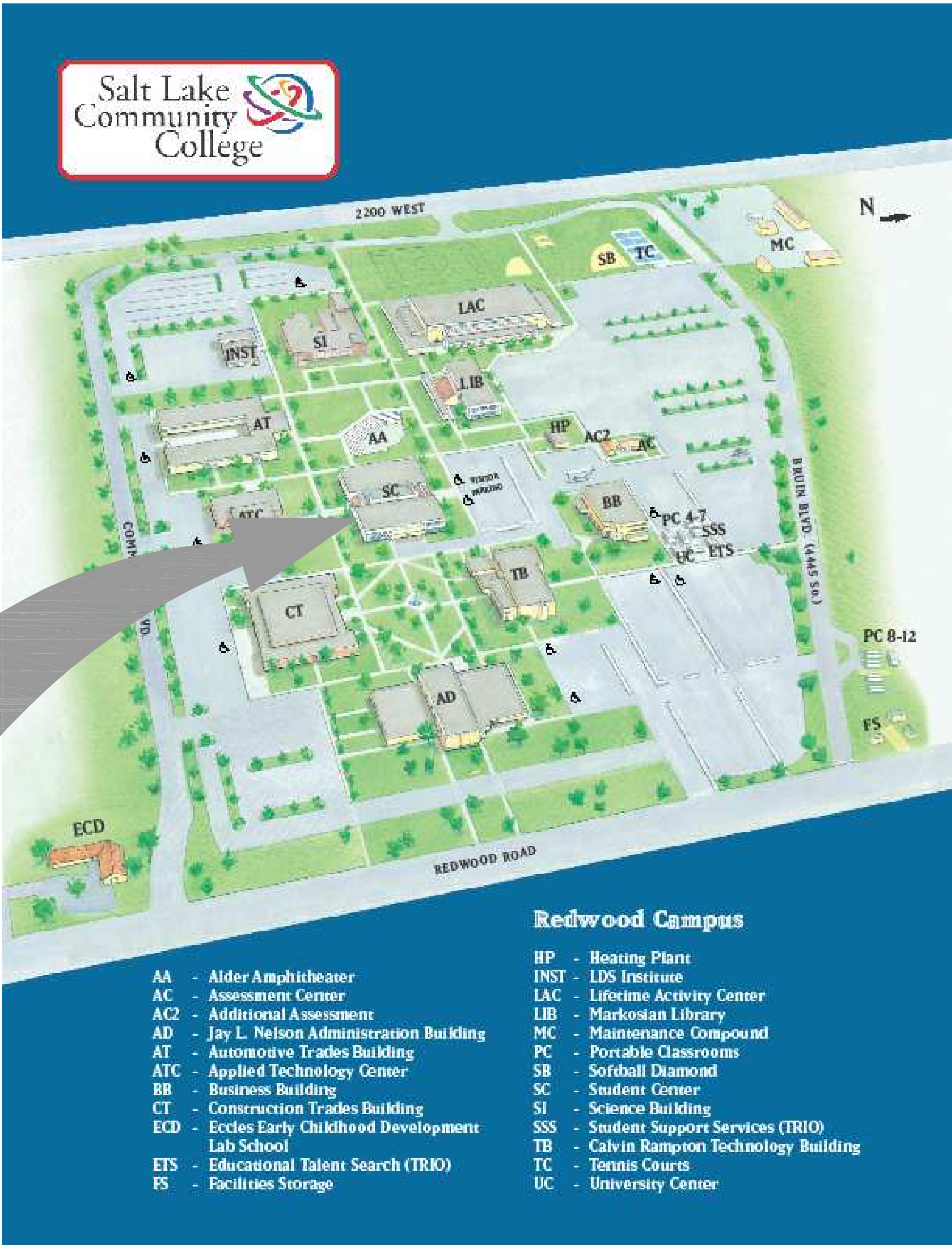
STEAM VALVE REPLACEMENT

TAYLORSVILLE, UTAH
JANUARY 2009

SHEET INDEX

DWG No.	TITLE
GG1	TITLE SHEET & SHEET INDEX
MG1	MECHANICAL LEGEND
MH1	MECHANICAL STEAM SYSTEM SCHEMATIC DIAGRAMS
MH2	MECHANICAL STEAM SYSTEM EQUIPMENT SCHEDULES

PROJECT LOCATION



SLCC STUDENT CENTER LOCATION MAP
DFCM PROJECT NUMBER: 08248660

CODE ANALYSIS

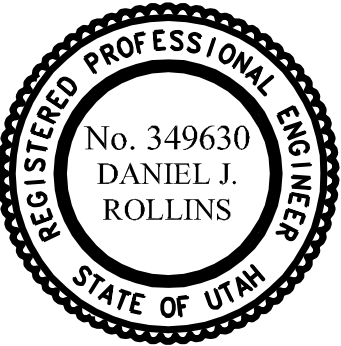
APPLICABLE CODES			
Year		Year	
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	2006	Uniform Code for Building Conservation	
International Plumbing Code	2006	ADA Accessibility Guidelines	
International Fire Code	2006		
International Energy Conservation Code	2006		

- A. Occupancy and Group: Existing B
- Change in Use: Yes No X Mixed Occupancy: Yes No X
Special Use and Occupancy (e.g. High Rise, Covered Mall):
- B. Seismic Design Category: D (Existing) Design Wind Speed: 90 (Exist.) mph
- C. Type of Construction (circle one): EXISTING Reinforced Concrete Basement Struc.
I I II II III III IV V V
A B A B A B HT A B
- D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):
North: 1 (Exist.) South: 1 (Exist.) East: 1 (Exist.) West: 1 (Exist.)
- E. Mixed Occupancies: Nonseparated Uses:
- F. Sprinklers:
Required: Provided: Existing Type of Sprinkler System: Existing
- G. Number of Stories: 2 (Exist.) Building Height: 30 (Exist.)
- H. Actual Area per Floor (square feet): N.A.
- I. Tabular Area: N.A.
- J. Area Modifications:
a) $A_a = A_t + \left[\frac{A_t I_r}{100} \right] + \left[\frac{A_t I_s}{100} \right]$ $I_r = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$
- b) Sum of the Ratio Calculations for Mixed Occupancies:
 $\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$
- c) Total Allowable Area for:
1) One Story: N.A. Existing
2) Two Story: A₅ (2) N.A. Existing
3) Three Story: A₅ (3)
- d) Unlimited Area Building: Yes No Code Section:
- K. Fire Resistance Rating Requirements for Building Elements (hours). N.A. Existing

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls			Floors - Ceiling Floors		
Interior Bearing Walls			Roofs - Ceiling Roofs		
Exterior Non-Bearing Walls			Exterior Doors and Windows		
Structural Frame			Shaft Enclosures		
Partitions - Permanent			Fire Walls		
Fire Barriers			Fire Partitions		
			Smoke Partitions		

- L. Design Occupant Load: No Change / Existing
Exit Width Required: N.A. Existing Exit Width Provided: No Change / Existing
- M. Minimum Number of Required Plumbing Facilities: No Change / Existing
a) Water Closets - Required (m) (f) Provided (m) (f)
b) Lavatories - Required (m) (f) Provided (m) (f)
c) Bath Tubs or Showers:
d) Drinking Fountains: Service Sinks:

- FOOTNOTES:
- 1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
a) High Rise Requirements.
b) Atriums.
c) Performance Based Criteria.
d) Means or Egress Analysis.
e) Fire Assembly Locator Sheet.
f) Exterior and Interior Accessibility Route.
g) Fire Stopping, Including Tested Design Number.






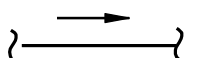










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A	100% REVIEW SET	DJR	DJR	NEC	11/25/08
NO.	REVISIONS	DWN	APVD	APVD	DATE




















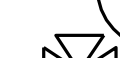

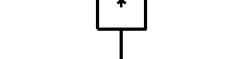
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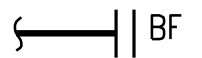












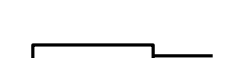










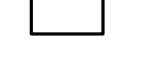

































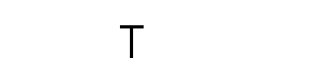
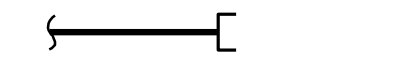
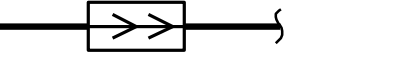
SALT LAKE COMMUNITY COLLEGE
STUDENT CENTER STEAM VALVE REPLACEMENT
SLCC MAIN CAMPUS

TITLE SHEET & INDEX

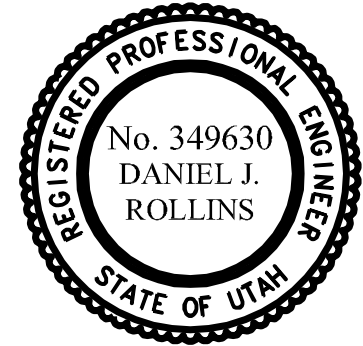
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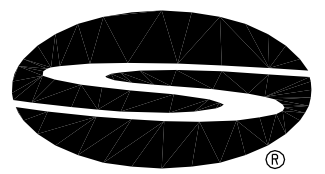
GENERAL	
	NEW WORK
	EXISTING
	FLOW ARROW
	PITCH DOWN IN DIRECTION OF FLOW
TIE POINT DESIGNATORS	
	TIE POINT INTO AN EXISTING SYSTEM YYY = P&ID DRAWING NUMBER XX = TIE POINT NUMBER
VALVES	
	GATE
	PARALLEL SLIDE GATE
	GLOBE
	BALL
	PLUG
ACTUATORS	
	*= A - AIR CYLINDER G - GEAR H - HYDRAULIC CYLINDER M - MOTOR OPERATED S - SOLENOID
	HAND
	PNEUMATIC CYLINDER
	PNEUMATIC CYLINDER, SPRING OPPOSED
	PNEUMATIC CYLINDER, DOUBLE ACTING
	PNEUMATIC DIAPHRAGM
	PNEUMATIC DIAPHRAGM WITH POSITIONER
	PNEUMATIC DIAPHRAGM, SPRING OPPOSED
	PNEUMATIC DIAPHRAGM, SPRING OPPOSED WITH POSITIONER
	SPRING
	MANUAL RESET
	AUTOMATIC RESET
	FLOAT OPERATOR

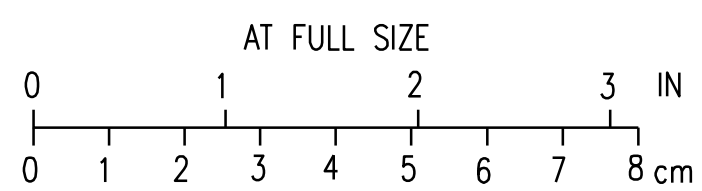
VALVES	
	SWING CHECK
	BALL CHECK
	WAFER CHECK
	FLOAT
	PINCH
	BALANCING
	FLAP GATE
	ANGLE SAFETY RELIEF
	VACUUM RELIEF
	QUICK OPEN
	BACKFLOW PREVENTER
	AUTOMATIC RECIRCULATION
	GAGE COCK
	POPPET OR TELESCOPING
	PRESSURE REDUCING WITH EXTERNAL TAP (ARROW INDICATES FLOW DIRECTION)
	BACK PRESSURE REGULATOR EXTERNAL TAP (ARROW INDICATES FLOW DIRECTION)
	PRESSURE REDUCING, SELF-CONTAINED (ARROW INDICATES FLOW DIRECTION)
	BACK PRESSURE REGULATOR SELF-CONTAINED (ARROW INDICATES FLOW DIRECTION)
	THREE-WAY (WITH TYP. FAIL POSITION)
	FOUR-WAY (WITH TYP. FAIL POSITION)
	CONTROL VALVE ASSEMBLY
	SOLENOID AUTOMATED VALVE

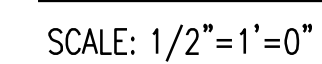
PIPING FITTINGS	
	BLIND FLANGE
	BUTT WELDED CAP
	SCREWED/SOCKET WELD CAP
	TEE
	UNION
	VALVE STUB
	PIPE PLUG
	TANK NOZZLE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	FLOW ORIFICE
	SPECTACLE FLANGE
	EXPANSION JOINT
	EXPANSION JOINT SINGLE END
	EXPANSION JOINT DOUBLE END
	FLEX COUPLING
	FLEX HOSE
	FLEX HOSE W/ QUICK DISCONNECT
	Y-STRAINER
	Y-STRAINER W/ N.C. GATE VALVE
	CAPPED Y STRAINER W/ N.C. BALL VALVE
	SIMPLEX STRAINER
	DUPLEX STRAINER
	BUCKET STRAINER
	START-UP STRAINER
	TEMPORARY IN-LINE STRAINER
	*= MT = MOISTURE TRAP ST = STEAM TRAP LF = LINE FILTER
	
	
	SEDIMENT TRAP
	STEAM TRAP
	VACUUM BREAKER
	AIR/GAS FILTER
	FLASH POT
	STEAM VENT
	AUTOMATIC AIR VENT
	*= CO = FLOOR CLEANOUT YCO = YARD CLEANOUT
	
	WALL CLEANOUT
	FLOOR OR TRENCH DRAIN
	VARIABLE PRESSURE REDUCING ELEMENT
	INSULATING FLANGE
	CHEMICAL SEAL
	DIAPHRAGM SEAL
	PRESSURE BREAKDOWN ORIFICE
	PRESSURE BREAKDOWN ELEMENT
	RUPTURE DISC, PRESSURE RELIEF
	RUPTURE DISC, VACUUM RELIEF
	RELIEF VALVE VENT SEAL
	SPRAY NOZZLE
	RD PRESSURE VESSEL
	INJECTOR / EDUCTOR
	DESUPERHEATER
	CYCLONE SEPARATOR
	ADJUSTABLE WEIR GATE
	DECANTER
	EMERGENCY SHOWER AND EYE WASH
	HOSE BIBB
	QUICK DISCONNECT
	FLAME ARRESTER
	FLOW STRAIGHTENING VANE

GENERAL NOTES	
1. ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS	
2. FOR GENERAL LEGEND AND ABBREVIATIONS, SEE "CG" DRAWINGS.	

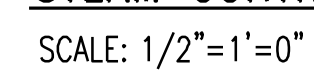


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NO.	REVISIONS	DWN	APVD	APVD	DATE
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SALT LAKE COMMUNITY COLLEGE STUDENT CENTER STEAM VALVE REPLACEMENT SLCC MAIN CAMPUS					
MECHANICAL SYMBOLS LEGEND					
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DRAWN	DJR	NO.			
CHECKED		REV.			
APPROVED		MG1			
DATE		0			

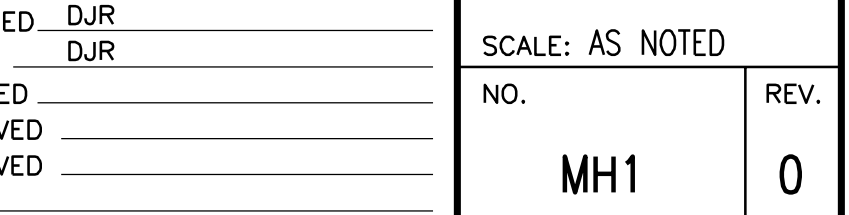




- SCALE: $1/2" = 1'-0"$



- | | |
|-----------------|------|
| SCALE: AS NOTED | |
| NO. | REV. |
| MH1 | 0 |



GENERAL NOTES:

1. THESE VALVES WERE SELECTED TO MATCH EXISTING VALVES AND THEIR EXISTING DIMENSIONS AS CLOSELY AS POSSIBLE. CONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS, PROVIDE CUSTOM REDUCERS, AND MODIFY EXISTING PIPE END FLANGE CONNECTIONS AS NEEDED TO ACCOMMODATE ALL OF THE NEW REPLACEMENT VALVES.

PRESSURE REDUCING VALVE (PRV) SCHEDULE							
SYMBOL	OPERATING PRESSURE RANGE (PSIG)	MIN. TEMP. RATING °F	CAPACITY LBS/HR	SPENCE MODEL	DUTY	MIN. PRESS. RATING PSI	REMARKS
PRV-1	75-15	450	11,900	4" 'E'	STEAM	250	1, 2
PRV-2	75-15	450	6590	3" 'E'	STEAM	250	1, 2

NOTES:

1. PROVIDE TYPE D PILOT OPERATED VALVE.
2.

GATE VALVE SCHEDULE – FOR PRV STATION									
SYMBOL	CRANE MODEL	NOM. SIZE	DUTY	OPERATING PRESSURE RANGE (PSIG)	MIN. TEMP. RATING °F	PRESS. CLASS PSI	END CONN. STYLE	NOM. LENGTH FL.-FL.	REMARKS
GV-1	7 1/2 E	4"	STEAM	60-90	450	250	FLANGED	12"	1
GV-32	7 1/2 E	4"	STEAM	60-90	450	250	FLANGED	9.25"	1, 2
GV-4	7 1/2 E	5	STEAM	60-90	450	250	FLANGED	15"	1
GV-5	7 1/2 E	5"	STEAM	60-90	450	250	FLANGED	10.25"	1

NOTES:

1. IRON BODY VALVE CONSTRUCTION.
2. EXISTING VALVE IS TAGGED WITH #32. ALL OTHER VALVE NUMBERS IN THIS SCHEDULE ARE NEW.

BYPASS GLOBE VALVE SCHEDULE – FOR PRV STATION									
SYMBOL	CRANE MODEL	NOM. SIZE	DUTY	OPERATING PRESSURE RANGE (PSIG)	MIN. TEMP. RATING °F	PRESS. CLASS PSI	END CONN. STYLE	NOM. LENGTH FL.-FL.	REMARKS
GLV-3	21 E	2 1/2"	STEAM	60-90	450	250	FLANGED	9.5"	1, 2, 3

NOTES:

1. IRON BODY VALVE CONSTRUCTION.
2. EXISTING VALVE IS TAGGED WITH #32. ALL OTHER VALVE NUMBERS IN THIS SCHEDULE ARE NEW.
3. VALVE SHALL COMPLY WITH ASME B16.1 & ASME B16.10.

CONTROL VALVE SCHEDULE – FOR HEAT EXCH CONTROL STATION									
SYMBOL	(LB/HR)	SERVICE	TYPE	PRESS. DROP PSI	MANUF.	MODEL	SIZE	CLASS	REMARKS
CV-1	9,000	MAIN HEATING HX	ELEC 2-WAY MOD. W/FLANGES	10	SPENCE	BOSS 'D'	4"	250	
CV-2	3,900	MAIN HEATING HX	ELEC 2-WAY MOD. W/FLANGES	10	SPENCE	BOSS 'D'	4"	250	

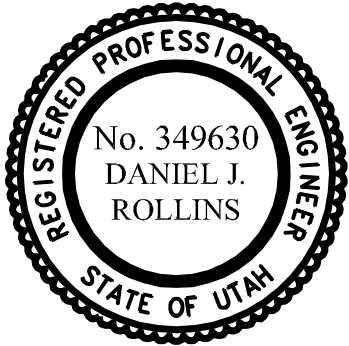
NOTES:

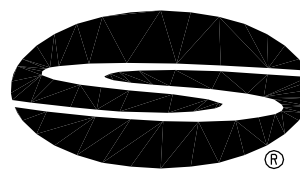
1. PROVIDE ELECTRICALLY OPERATED CONTROL VALVES TO BE CONNECTED TO THE EXISTING JOHNSON CONTROLS METASYS PANEL AT THE NORTH END OF THE EXISTING MECHANICAL ROOM.
2. CONTRACTORS SHALL PROVIDE ALL CONTROL WIRING, WIRING SUPPORT, INTERLOCKS, CONNECTIONS, GRAPHICS, AND PROGRAMMING TO THE EXISTING METASYS PANEL TO ALLOW FULL CONTROL OF THESE VALVES FROM THE EXISTING HEAD END COMPUTER.

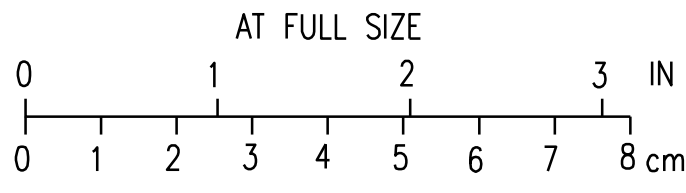
GATE VALVE SCHEDULE – FOR HEAT EXCH CONTROL STATION										
SYMBOL	MFR	MODEL	NOM. SIZE	DUTY	OPERATING PRESSURE (PSIG)	MIN. TEMP. RATING °F	PRESS. CLASS PSI	END CONN. STYLE	NOM. LENGTH FL.-FL.	REMARKS
GV-54	JENKINS	29T 2001	6"	STEAM	5	250	125	FLANGED	10.5"	1, 2
GV-55	JENKINS	29T 2001	6"	STEAM	5	250	125	FLANGED	10.5"	1, 2
GV-56	CRANE	465 1/2	4"	STEAM	5	250	125	FLANGED	9"	1, 2
GV-57	CRANE	465 1/2	4"	STEAM	5	250	125	FLANGED	9"	1, 2
GV-58	JENKINS	454 J	3"	STEAM	5	250	125	FLANGED	8"	1, 2, 3

NOTES:

1. IRON BODY VALVE CONSTRUCTION.
2. EXISTING VALVE TAGS 54, 55, 56, & 57 SHALL BE TRANSFERRED TO THE NEW GATE VALVES.
3. EXISTING GATE VALVE 58 IS USED FOR BYPASS PURPOSE. EXISTING VALVE TAG 58 SHALL BE TRANSFERRED TO THE NEW BYPASS GATE VALVE.



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DESIGNED	DJR	SCALE: AS NOTED			
DRAWN	DJR	NO.		REV.	
CHECKED		MH2		0	
APPROVED					
APPROVED					
DATE					



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SCU PROJECT NO:21020201.00